A History of British Zoophytes. By George Johnston, M.D., with 44 Plates and 80 Wood Cuts. Lizars, Edinburgh; Highley, London; and Curry and Co., Dublin. 1838.

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Dr. Johnston's first order, Hydroida, comprises eleven genera, including fifty species. In the first genus, Hydra, the H. brunnea of Templeton is referred to H. vulgaris, and the Hydra corynaria of the same naturalist (Hydra lutea of Fleming) has its name changed to Hydra littoralis, not being identical either with the Hydra lutea or erynaria of Bosc. The Coryne glandulosa of Lamarck is made the type of a new genus, Hermia, thus characterized:—

"Polype fixed, sheathed in a thin horny membrane, clavate or branched and subphytoidal, the apices of the branches clubbed and furnished with scattered glandular tentacula; mouth 0."

A new species of *Thoa* is dedicated to Mr. Bean of Scarborough. Sertularia pinnata, Templeton, is styled S. hibernica. Antennularia ramosa is considered a variety of A. antennina.

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The statement that the littoral varieties "are always strongly warted" and "coated with particles of broken shells." &c., while the deep water specimens are generally clean, showing more vivid and varied tints, though a pleasing inference of adaptation of instinctive habit to circumstances is drawn from it, is not always borne out by fact. For instance, this species abounds at half tide at Newhaven and other places on the shores of the Frith of Forth; more vividly coloured or smoother creatures can scarcely be imagined; whilst such as are dredged in deep water in the Irish sea are generally dull in colour, and covered with broken shell. To the localities of Actinia maculata may be added the coasts of Man, where it is extremely common on old Fusi and Trochi in deep water. There the shells to which this beautiful animal attaches itself are not always. indeed seldom, inhabited by the hermit-crab, neither is the horny base always present. This Actinia seems to change its habitation according to its size. There are so many differences between it and the other species, that it may be regarded as the type of a distinct genus. In the wood-cut the tentacula are represented as much too few, and in the living animal the mouth is bilobed, with two distinct rows of tentacula encircling it. The lobing of the body is seen in all specimens whether embracing or simply on the surface of a shell. In addition to Dr. Johnston's references may be mentioned some interesting notes on this animal in Chiagi's Memorie, vol. ii. p. 243.

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In the order Ascidioida, Dr. Johnston enumerates twenty-three genera and seventy species. The complicated structure and singular polypidom of the zoophytes of this order render them objects of great interest. To Dr. Farre we are indebted chiefly for our knowledge of their organization. Dr. Johnston gives an excellent abstract of Dr. Farre's researches and a very complete history of the British species. In this order the genus "Berenicea" of Fleming is styled "Lepralia," the former name being preoccupied. One new species, Lepralia variolosa, is described. Doubtless many unrecorded forms of these curious Lichens of the animal kingdom exist on our shores. A new Flustra (F. Murrayana, Bean, MSS.) is also characterized. The Alcyonidium echinatum and parasiticum are so different in habit from the other two native species, that it might be advisable to separate them from the genus with which they are at present associated. Under Alcyonella will be found a most interesting account of that singular polype, and lastly, the Plumatella sultana found in Berwickshire by Sir John Graham Dalyell, is added to the British Fauna.

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We have great pleasure in being able to announce the appearance of the first part of the 1st vol. of a 'FLORA OF NORTH AMERICA,' containing abridged descriptions of all the known indigenous and naturalized plants growing north of Mexico, arranged according to the Natural System, by Dr. John Torrey and Dr. Asa Gray. When we consider the extent of country embraced by this Flora, from Key west in Florida, lat. 25 S., to the extreme arctic regions, and from Newfoundland in the east to California and Behring's Straits in the west, this may well be looked upon as a gigantic undertaking, and such as few, if any, are so able to accomplish as the well-known botanists now mentioned. They have been engaged for a series of years in making preparations for this publication, and they have met with the most powerful assistance from every person who has taken an interest in the botany of that immense continent. "The value of this Flora," they assure us, "will be greatly enhanced by the extensive contributions of Mr. Nuttall, who has communicated to us for publication his notes and descriptions of the plants collected in his recent journey to Oregon and California, by way of the southern ranges of the Rocky Mountains. Mr. Nuttall's collections are very interesting, and comprise a large number of new genera and species, a considerable portion of which were obtained in a region never before visited by botanists." We cannot give a better idea of the great progress of American botany than by comparing the number of certain species contained in certain orders or genera as published by Pursh in 1815, and Drs. Torrey and Gray in the present work, published in 1838.

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Torrey and			400
	Gray.		Pursh.
Ranunculaceæ	135		73
Cruciferæ	265		49
Viola	32		22
Hypericum (including Elodea)	38		27
Paronychia	8	***************************************	2
Arenaria	29		13
Stellaria	19		3
Cerastium	10		6
Silene	23		7
Claytonia	17		5
Sida	19		8
Ceanothus	19		5
Vicia	15	*************	5

We also gladly take this opportunity to announce the arrival of the second part of this invaluable work in this country, brought. indeed, by one of the authors himself, Dr. Gray, who is come to visit the collections of American plants in England and upon the Continent, so as to clear up many dubious points in the species and synonyms; a labour in which we know he has been eminently successful, and which will stamp a great additional value on the work in question. The second part, although comprising the proper complement of pages, does not bring us to the conclusion of the Leguminosæ, a family of plants in which N. America is eminently rich, particularly in Astragalea. Astragalus alone includes 40 species; Oxytropis, 16; Phaca, 31: and Homolobius, a new genus of Nuttall with the aspect of Phaca and the legumes almost of Vicia. 10 species. Of Psoralea there are 27 species; of Petalostemum, 13; of Trifolium, 33, of which 12 belong to that beautiful group with involucrated capitula. It gives us pleasure to find Mr. Douglas' Texas plants included in this work.

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Lystra, with characters of seven species, illustrated by L. auricoma from Mexico, which externally has a great resemblance to Phenax, the second genus here described, the analyses of which are subjoined on the plate of the former genus. Acocephulus represented by A. costatus, Germ. Bythoscopus divided into four sub-genera: Bythoscopus (Flatta varia, F.), Idiocerus Lewis (illustrated by Jassus fulgidus, F.), Oniopsis (by B. lanio), and Pediopsis (B. tiliæ, Germ.). Eurymela with five species, of which the most known, E. fenestrata, is chosen for the illustration of the genus. Erichson, Bericht über Entomologie, Wiegmann's Archiv. Part V. 1838.

Second Annual Report and Proceedings of the Botanical Society of Edinburgh. Session 1837-8. 8vo. Printed for the Society.

We have had much satisfaction in perusing the Second Annual Report of this Society; it is rapidly advancing in importance; and if the same zeal and union of feeling continue to influence its members, it will in a very short period stand at the head of the Botanical Associations in Britain. Its correspondence and herbarium are already extensive, and the distributive plan which has been adopted in regard to the latter will quickly increase it, whilst that of keeping a paid Assistant-Curator will at once prevent any falling off or confusion amidst the increasing work of the Society.

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LINNÆAN SOCIETY.

Dec. 4.—Edward Forster, V.P., in the Chair.

Read, "Observations on the Anatomical and Physiological Nature of Ergot in certain Grasses." By E. J. Queckett, Esq., F.L.S.

Having had the opportunity of examining the formation of the ergot in several grasses, the author has endeavoured to trace the cause and origin of this singular formation on them, and particularly on *Elymus sabulosus*.

It was found, that when a grain of the grass was to be replaced by an ergot, it presented before the period of expansion of the flower a singular mildewed appearance. This, when examined microscopically, was seen to consist of filaments, at whose base were myriads of particles of exceedingly diminutive size, forming a complete coating to the young grain, so that no part of its body was visible through it.

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